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Authors: Rindert Missiaen, Massimiliano Mazzone, Gabriele Bergers



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The reciprocal function and regulation of tumor vessels and immune cells offers new therapeutic opportunities in cancer

Rindert Missiaen¹, Massimiliano Mazzone¹ and Gabriele Bergers^{1,2,*}

¹VIB-Center for Cancer Biology, and KU Leuven, Department of Oncology, 3000 Leuven, Belgium

²Department of Neurological Surgery, Brain Tumor Research Center, Helen Diller Family Comprehensive Cancer Center, University of California, San Francisco, CA94158, USA.

*Corresponding author. E-mail: gabriele.bergers@kuleuven.vib.be

Abstract

Introduction

- 1. Angiogenic factors promote immunosuppression**
- 2. Immune cells promote tumor angiogenesis**
 - 2.1. Innate immune cells promote angiogenesis**
 - 2.1.1. Tumor-associated macrophages (TAMs)**
 - 2.1.2. Tumor-associated neutrophils (TANs) and myeloid-derived suppressor cells (MDSC)**
 - 2.2. Adaptive immune cells regulate angiogenesis**
- 3. Metabolic pathways in immune cells regulate angiogenesis**
- 4. Immune cells facilitate resistance to antiangiogenic therapy**
- 5. Antiangiogenic Therapy meets Immunotherapy**

Conclusions

Abstract

Tumor angiogenesis and escape of immunosurveillance are two cancer hallmarks that are tightly linked and reciprocally regulated by paracrine signaling cues of cell constituents from both compartments. Formation and remodeling of new blood vessels in tumors is abnormal and facilitates immune evasion. In turn, immune cells in the tumor, specifically in context with an acidic and hypoxic environment, can promote neovascularization. Immunotherapy has emerged as a major therapeutic modality in cancer but is often

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